

REMARKS

Reconsideration and allowance of the application are respectfully requested in light of the above amendments and the following remarks.

To expedite the prosecution, claims 1, 4, 6-9, 11-13, 19, 21-24, 26-28, 46, 48 and 50 have been amended to clarify various patentable aspects of the claimed methods and apparatuses and to correct minor grammatical mistakes. More specifically, independent claim 1 has been amended to clarify that a mobile node “...sends first information as a part of second information which reaches a network entity outside of the local network, the first information requesting a global address of the mobile access router,” to clarify the subject matter of claim 1, and the other independent claims 4, 9, 19 and 24 have been similarly amended. Support for the amendments to the claims is found, for example, in paragraphs [0061]-[0063] of the published U.S. application. (It should be noted that references herein to the specification and drawings are for illustrative purposes only and are not intended to limit the scope of the invention to the referenced embodiments). No new matter is added.

Claims 1, 4, 7, 9, 11-13, 19, 20, 22, 24, 26-28, 46, 48 and 50 were rejected under 35 U.S.C. §103(a) as being unpatentable over Venkitaraman et al. (US 2003/0161287) (hereinafter, “Venkitaraman”) in view of Janneteau et al. (US 7,430,174) (hereinafter, “Janneteau”). Claims 6 and 21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Venkitaraman in view of Janneteau and Korus et al. (US 6,721,297) (hereinafter, “Korus”). Claims 8 and 23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Venkitaraman in view of Janneteau and Watanabe et al. (US 7,020,440) (hereinafter, “Watanabe”). To the extent that these

rejections may be deemed applicable to the amended claims presented herein, the Applicants respectfully traverse based on the points set forth below.

Amended claim 1 is directed towards a dynamic network management system and recites the features of:

“1. A dynamic network management system in a communication system including a mobile access router forming a mobile network, a local fixed router forming a local network and residing in the mobile network, and a mobile node participating in the local network,

wherein the dynamic network management system is configured so that, after the mobile node sends first information as a part of second information which reaches a network entity outside of the local network, the first information requesting a global address of the mobile access router, the mobile access router receiving the first information from the mobile node through the local fixed router informs the mobile node about the global address of the mobile access router.”
(emphasis added)

As explained in the specification, the system recited by claim 1 enables global connectivity to be provided to a mobile node and a mobile network even though a local fixed router resides in between the mobile access router forming the mobile network and the mobile node connected to this mobile network. (see, e.g., par. [0102] of the published U.S. application).

Despite the allegations in the Office Action, the Applicants firmly believe that the system recited by claim 1 differs from both Venkitaraman and Janneteau for various reasons, including that claim 1 recites the above-noted feature of: “...after the mobile node sends first information as a part of second information which reaches a network entity outside of the local network, the first information requesting a global address of the mobile access router, the mobile access router receiving the first information from the mobile node through the local fixed router informs the mobile node about the global address of the mobile access router,” which is a feature not taught by these prior art references.

More specifically, the system recited by claim 1 has the remarkable technical feature that “first information,” which requests “a global address of the mobile access router,” is “a part of second information which reaches a network entity outside of the local network.” The first information may be, for example, special markings, and the second information may be, for example, a Binding Update message, although are not limited thereto (see, e.g., par. [0062] of the published U.S. application).

Neither Venkitaraman nor Janneteau teach or suggest the above-noted feature of “...after the mobile node sends first information as a part of second information which reaches a network entity outside of the local network, the first information requesting a global address of the mobile access router, the mobile access router receiving the first information from the mobile node through the local fixed router informs the mobile node about the global address of the mobile access router,” as recited by claim 1.

On the contrary, the message disclosed by Venkitaraman (a “Router Solicitation message,” see par. [0048]) can only reach network nodes in a local network. Specifically, Venkitaraman discloses:

“[0048] At step 1102, the mobile router receives a router solicitation from the mobile node. In effect, the router solicitation is a query from the mobile node asking for information about the router to which it is attached. In response to the router solicitation, the mobile router returns a router advertisement which, in one embodiment, provides three items of information (represented in FIG. 11 by steps 1104, 1106, 1108) to the mobile node, via a single advertisement message. As will be appreciated, the information provided at steps 1104, 1106, 1108 may also be conveyed via separate messages.” (emphasis added)

Thus, the router solicitation message disclosed by Venkitaraman cannot be transmitted upstream outside of a local network via a fixed local router, and thus, cannot reach a network

entity outside of the local network. Thus, Venkitaraman does not teach or suggest the feature of: “...after the mobile node sends first information as a part of second information which reaches a network entity outside of the local network, the first information requesting a global address of the mobile access router, the mobile access router receiving the first information from the mobile node through the local fixed router informs the mobile node about the global address of the mobile access router,” as recited by claim 1.

Furthermore, the message disclosed by Janneteau is a router advertisement message (specifically, a “Care-of Route Advertisement message,” see col. 9, lines 35-56, col. 12, lines 11-6 of Janneteau) in a local network (which is transmitted downstream). This router advertisement message also cannot be transmitted upstream to the outside of a local network via a local fixed router, and thus, cannot reach a network entity outside of the local network.

Therefore, neither Venkitaraman nor Janneteau, whether considered individually or in combination, teach or suggest the feature of: “...after the mobile node sends first information as a part of second information which reaches a network entity outside of the local network, the first information requesting a global address of the mobile access router, the mobile access router receiving the first information from the mobile node through the local fixed router informs the mobile node about the global address of the mobile access router,” as recited by claim 1.

According to the above technical feature of claim 1, a mobile node can, for example, send the “first information,” which is used to request “a global address of the mobile access router,” upstream outside of a local network via a local fixed router, since the “first information” is “a part of second information which reaches a network entity outside of the local network.”

Therefore, even if there are one or more routers between the upstream mobile access router and

the local fixed router, the “second information” can reach the upstream mobile access router, thereby enabling the upstream mobile access router to receive the second information and easily find the “first information” which is a part of the “second information.” This beneficial advantage of claim 1 is not realized by either Venkitaraman nor Janneteau, whether considered individually or in combination.

It is further noted that, in the “Response to Arguments” section (pgs. 11-13) of the Office Action, the Office Action states:

“...The only deficiency in Venkitaraman is a local fixed router residing in the mobile network forming a location network with a mobile node attached to it.

Janneteau in the same field of endeavor provides what is deficient in Venkitaraman and teaches that nodes residing in the mobile network formed by a mobile router include local mobile router and local fixed router which form their own local networks and relay information between the mobile router and the local mobile node or local fixed node attached to the local networks; each attached local mobile network node (including local fixed node) transmits a Binding Update (BU) message to nodes (CN or HA) outside of the local network (Fig. 6, col. 1, line 65 through col. 2, line 3 and lines 10-14, col. 9, lines 35-56, col. 12, lines 11-16).” (emphasis added)

However, although Janneteau discloses that an “MNN” (“Mobile Network Node”) sends an “extended BU message” (col. 11, lines 65-67), the “extended BU message” disclosed by Janneteau simply includes a “care-of route,” which is an ordered-list of IP addresses derived from the above-described “Care-of Route Advertisement” message received from an upper router, and is used by the correspondent node (CN) (col. 12, lines 11-16). Thus, the “extended BU message” disclosed by Janneteau is clearly not used to request a global address of a mobile access router at all. In other words, Janneteau’s disclosure of transmitting an extended BU message is completely different from the recited feature of: “...after the mobile node sends first information as a part of second information which reaches a network entity outside of the local

network, the first information requesting a global address of the mobile access router, the mobile access router receiving the first information from the mobile node through the local fixed router informs the mobile node about the global address of the mobile access router,” as recited by claim 1.

Accordingly, it is respectfully submitted that Venkitaraman and Janneteau, even if combined as proposed in the Office Action, still would lack the above-noted features of claim 1, and allowance of claim 1 and all claims dependent therefrom is warranted for at least this reason. Claims 4, 9, 19 and 24 now similarly recite the above-mentioned subject matter distinguishing system claim 1 from the applied references, though do so with respect to a dynamic network management apparatus placed in a mobile access router, a dynamic network management apparatus placed in a mobile node, a dynamic network management method used by a mobile access router, and a dynamic network management method used by a mobile node, respectively. Accordingly, it is respectfully submitted that allowance of claims 1, 4, 9, 19 and 24 and all claims dependent therefrom is warranted for at least these reasons.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,

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